

## Message Text

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PAGE 01 NEW DE 07916 201119Z

ACTION NEA-11

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INFO USDOC WASHDC  
AMCONSUL MADRAS  
AMCONSUL BOMBAY POUCH  
AMCONSUL CALCUTTA POUCH

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DEPARTMENT PLEASE PASS TO USGS AND USBURMINES

E.O. 11652: NA

TAGS: EMIN, BTIO, EOIP, IN

SUBJECT: NEW TITANIUM DIOXIDE PLANT TO BE SET UP WITH US TECHNOLOGY

1. BEGIN UNCLASSIFIED: ON APRIL 23, 1978 THE PRESIDENT OF INDIA LAID THE CORNER STONE FOR THE COUNTRY'S FIRST CHLORIDE BASED TITANIUM DIOXIDE PIGMENT PLANT. THE PLANT IS BEING SET UP BY KERALA MINERALS AND METAL LIMITED (KMML) AT KOILTHOTTAM NEAR QUIILON, KERALA STATE. THIS WILL BE THE INDIA'S SECOND TITANIUM DIOXIDE PLANT BASED ON KERALA'S RICH MINERAL SANDS.

2. ESTIMATED COST OF THE FIRST PHASE, WHICH IS TO PROVIDE 22,000 MT OF TITANIUM DIOXIDE PIGMENT ANNUALLY BY 1981-82, IS RS. 550-600 MILLION (\$65-70 MILLION) INCLUDING ABOUT 10 PERCENT IN FOREIGN EXCHANGE. TECHNICAL COLLABORATIONS HAVE BEEN SIGNED WITH THE US FIRMS - BENILITE CORPORATION OF AMERICA (BCA) FOR BENEFICIATION OF RAW ILMENITE INTO SYNTHETIC RUTILE AND KERR-MCGEE CHEMICAL CORPORATION FOR THE CHLORINATION OF BENEFICIATED ILMENITE TO PRODUCE TITANIUM DIOXIDE PIGMENT. WOODALL DUCKHAM (UK) IS ALSO PROVIDING KNOWHOW FOR ACID REGENERATION.

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PAGE 02 NEW DE 07916 201119Z

3. RAW MATERIALS FOR THE TITANIUM DIOXIDE PLANT ARE TO BE SUPPLIED FROM KMML'S NEW MINERALS SANDS SEPARATION PLANT TO BE SET UP NEAR THE TITANIUM DIOXIDE PLANT. INITIAL PRODUCTION OF ILMENITE FROM THIS SEPARATION PLANT IS TO BE IN NEIGHBORHOOD OF 80-100,000 MT PER ANNUM. A SECOND PHASE PLAN CALLING FOR DOUBLING THE TITANIUM DIOXIDE PLANT TO 44,000 MT WOULD ALSO

INCLUDE RAISING THE ILMENITE PRODUCTION TO ABOUT 200,000 MT PER ANNUM. HOWEVER, FUTURE DEVELOPMENTS WILL DEPEND ON DEMAND FORECASTS AND EKONOMIC CONDITIONS.

4. KMML CURRENTLY OPERATES A 30,000 MT CAPACITY MINERALS SEPERATION PLANT AT KOILTHOTTAM WHICH PRODUCED 22,662 MT ILMENITE, 1,954 MT RUTILE, 155 MT ZIRCON, 43 MT MONAZITE, 265 MT LEUCOXENE, AND 124 MT SILLIMANITE DURING IFY 1976-77. PRODUCTION DURING 1977-78 WAS STATED TO BE ABOUT THE SAME. KMML CURRENTLY SUPPLIES ILMENITE TO TRAVANCORE TITANIUM PRODUCTS LTD.'S TITANIUM DIOXIDE PLANT AT QUILON WHICH USES THE SULPHATE PROCESS. ILMENITE AS WELL AS NATURAL RUTILE IS ALSO SUPPLIED TO OTHER DOMESTIC CONSUMERS WITH A SMALL AMOUNT EXPORTED. THE ILMENITE CONTAINS 60-65 PERCENT TITANIUM DIOXIDE AND RUTILE 92 PERCENT TITANIUM DIOXIDE.

5. PROVED RESERVES ALONG A 24 KM BEACH AREA OF THE CHAVARA COAST OF QUILON DISTRICT ARE PLACED AT 35 MILLION MT OF ILMENITE, MILLION MT OF NATURAL RUTILE AND 1 MILLION MT OF MONAZITE. THE BEACH SANDS ALSO CONTAIN 5 TO 10 PERCENT SILLIMANITE AND ZIRCON. THIS IS CONSIDERED TO BE ONE OF THE WORLD'S RICHEST DEPOSITS OF HEAVY MINERAL SANDS.

6. AT LATER DATE, PLANS ALSO CALL FOR SETTING UP OTHER DOWNSTREAM LIMITED OFFICIAL USE

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PAGE 03 NEW DE 07916 201119Z

FACILITIES, E.G. TITANIUM METAL PLANT, ZIRCONIUM CHEMICAL AND VETAL PLANT AND SOME PLANT FOR THE UTILIZATION OF FERRIC OXIDE. IMPORT OF TECHNOLOGY WOULD LIKELY BE REQUIRED, BUT WE DO ANTICIPATE THIS MATERIALIZING UNTIL PRESENT PROJECT HAS REACHED ADVANCE STAGE OF DEVELOPMENT. BY 1981-82, ANUAL DEMAND FOR RUTILE GRADE TITANIUM DIOXIDE IS ESTIMATED AT 19,000 MT LEAVING ABOUT 3,000 MT FOR EXPORT. IN MEANTIME DOMESTIC REQUIREMTNS KOR THIS GRADE WILL CONTINUE TO BE MET FROM IMPORTS.

7. US FIRMS INTERESTED INTHE FUTURE DEVELOPMENTS SHOULD CONTACT DR. K.T. CHANDY, CHAIRMAN, KERALA STATE INDUSTRIAL DEVELOPMENT CORPORATION LTD., POST BOX NO. 105, TRIVANDRUM, INDIA 695001. END UNCLASSIFIED.

8. BEGIN LOU: ALTHOUGH TPP POSSESSES THE KNOWHOW FOR PRODUCING TITANIUM DIOXIDE BY SULPHATE ROUTE, BECAUSE OF POLLUTION RESOURCES ATTACHE WAS INFORMED DURING RECENT KERALA VISIT THAT GOI HAS RESTRICTED FUTURE PLANTS TO THE CHLORIDE PROCESS DESPITE THE HIGH PRICE TAG. AMONG FOREIGN COMPANIES CONTACTED FOR THIS KNOWHOW APPARENTLYHKERR-MCGEE WAS ONLY FIRM WILLING TO SELL THIS TECHNOLOGY. KM'S CONTRACT CALLS FOR PAYMENT OF \$3.5 MILLION IN THREE EQUAL INSTALLMENTS WITH THE FIRST

ONE HAVING BEEN RECEIVED IN OCTOBER 1977. BENILITE CORPORATION OF AMERICA IS TO RECEIVE A LUMP SUM PAYMENT OF \$95,000 PLUS ROYALTY OF \$3.20 PER TON OF SYNTHETIC RUTILE FOR PERIOD OF 5 YEARS OR FOR ACCUMULATED PRODUCTION OF 150,000 MT, WHICHEVER COMES FIRST. WE UNDERSTAND PART OF THIS FEE WILL GO TO BCA'S TAIWAN SUBSIDIARY MULTI-RESOURCES ENGINEERING CORPORATION. BCA IS ALSO PROVIDING SIMILAR TECHNOLOGY TO THE ORISSA MINERALS SANDS PROJECT UNDER DEVELOPMENT BY INDIAN RARE EARTHS LIMITED (REF. NEW DELHI A-225) . END LOU.  
GOHEEN

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## Message Attributes

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